MCI Communications Corporation
1650 Tysons Boulevard
15th Floor
McLean, VA 22102
703 903 1200

Fred M. Briggs
Chief Engineering Officer
Engineering

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April 10, 1996

Honorable Chairman Reed E. Hundt
Chairman
Federal Communications Commission
1919 M St NW, Room 814
Washington DC 20554

Re: Ex Parte Presentation Concerning ET Docket No. 93-62 (Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation)

Dear Mr. Chairman:

MCI, along with other affected parties, is quite concerned about the proposal from the Environmental Protection Agency that would replace the existing and much respected ANSI/IEEE C95.1-1992 RF exposure guidelines with those of the National Council on Radiation Protection and Measurement (NCRP). The replacement of the ANSI/IEEE standards by those suggested by NCRP would impose major costs on the public and the providers of cellular and PCS wireless services, with no clear indications of any improved protection of the public from biological effects of RF radiation. The other fundamental disadvantage of moving to the NCRP documents rather than those of ANSI/IEEE is that the NCRP documents are based on quite outdated information, and will inherently remain so, whereas the ANSI/IEEE process is an ongoing effort which creates living documents which reflect current knowledge of bioeffects.

Perhaps the most fundamental difference between the two standards processes and results is that the ANSI/IEEE process is continuous, whereas the NCRP process is ad hoc, temporary, and based on much smaller sampling of experts' opinions. NCRP creates a small committee, spends years creating a document, then completely disbands until another different ad hoc committee is appointed years later. ANSI/IEEE, on the other hand, uses a continuous committee process based on much wider participation of experts.

The only quantitative differences between the NCRP and the ANSI/IEEE standards are in the frequency range covered, the definitions of two classes of exposure environments, the radiation limits in the range from 1500 MHz to 300 GHz, induced and contact current exposure, and certain modulation provisions. These issues are addressed in the attachment herewith. Suffice it to say here that the differences are minor or non-existent, in terms of their real-world effects. But where there are differences, we believe the ANSI/IEEE standards to be superior.

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Every one of those issues points to choosing the ANSI/IEEE standard over the proposed NCRP document. If there were really significant differences in the real-world effects of the two sets of guidelines, it could be worthwhile to seriously consider both. But given the minor real-world differences, the costs of implementing an arbitrary new standard in the face of accepted existing ones, and the fact that the ANSI/IEEE standards are produced in an ongoing process with wide representation and the NCRP standards are not, it is clear that the ANSI/IEEE standards are a far better choice.

Thank you for considering these comments in your choice of radiation standards for cellular and PCS service equipment and implementations.

Sincerely,

Fred M. Briggs

Fred M. Briggs
Chief Engineering Officer

cc: Commissioner James H. Quello
Commissioner Andrew C. Barrett
Commissioner Susan Ness
Commissioner Rachelle B. Chong
Richard M. Smith, Chief, OET

ATTACHMENT

Frequency range

The ANSI/IEEE standards cover a much wider frequency range --3 kHz to 300 GHz, compared to 300 kHz to 100 GHz.

Classes of protected environments

ANSI/IEEE has different standards for "controlled" and "uncontrolled" environments, whereas NCRP bases its guidelines on "occupational" vs. "general-population "environments. The ANSI/IEEE approach is much more logical, being based on the level of control and the expected knowledge of individuals in those two types of locations, rather than on presumed environments of different segments of the population.

Radiation limits between 1500 MHz and 300 GHz

The NCRP limit is fixed at a given level, over this frequency range, whereas the ANSI/IEEE limit rises linearly from the level at 1500 MHz to the upper limit. It matches the limit that is accepted for lasers at 300 GHz. A linear change over this frequency range is much more likely to correspond to actual effects on human bodies than is a sudden jump at 300 GHz, especially since the effects at these high frequencies are more and more surface-effects as the frequencies rise. Because the ANSI/IEEE standard has a decreasing time average exposure level, it is more protective with respect to thermal burn at these high microwave frequencies than is NCRP.

Induced and contact current exposure

ANSI/IEEE provides limitations for induced and contact currents, whereas NCRP does not. There are difficulties here, because of the difficulties of measurement, but at least ANSI/IEEE does address the potential problem.

Modulation provisions

NCRP proposes modulation limits on RF fields at field frequencies between 3 and 100 Hz. ANSI/IEEE does not adopt modulation standards, for two reasons: there are not enough data on modulation effects to reliably support such standards; and the modulation levels that correspond to the NCRP specifications are simply not practical in real-world equipment, so the NCRP standards are irrelevant in the real world.